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THELESPERMA NUECENSE, A NEW SPECIES FROM SOUTH TEXAS AND ITS BEARING ON THE STATUS OF T. FILIFOLIUM

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Thelesperma nuecense n. sp.[1] Planta annua, 45–100 cm. alt., glabra ubique; unicus caulis a quaque rosula oriens; folia rosulae relative pauca, ternatisecta, 5–15 cm. long., petiolis 4–7 cm. longis, breviter ciliatis 1–8 mm. ad basim; folia inferiora mediaque pinnate 1 vel 2 (3)-secta, divisione terminali 1–7 cm. long.; folia in parte caulis superiore semel-composita, 1–5 divisionibus longis linearibusque; capitula 2–30 in omnibus caulibus primariis, matura in pedunculis elongatis 10–40 cm. long.; involucrum exterius ex 8–12 phyllariis herbaceis subulatis 2–4 mm. long. omnino levibus constans; involucrum interius 10–14 mm. lat., 5–10 mm. alt. normaliter ex 8 phyllariis, ca. 1/3 ad 2/5 longitudinis subtus coalescentes; ores radii octo, steriles; ligula 1.5–2.5 cm. long., 1–1.5 cm. lat., inconspicue trifida, aurea, maculam clarissimam rubro-brunneam ad basim habens; flores disci multi, corollis rubiginosis, regularibus aut quasi regularibus, glabris, 6 mm. longis; lobi florum disci quinque, aequi, 2 mm. long., 1½–2 plo longiores quam iugulum, venis perspicuis rubro-brunneis secundum margines praediti; rami styli in appendiculas subulatas hispidas, ca. 0.3 mm. long. supra lati facti; palea oblonga, ad apicem rotundata, marginem latum scariosum 6–7 mm. long., 1.5–2 mm. lat., atque par nervorum mediorum perspicuorum habens; ovarium glabrum; achaenium maturum subbrunneum, manifeste verrucosum ad fere leve; pappus e 2 dentibus crassis 0.5 mm. long., ut videtur pubescentibus, excrescentias hispidas retrorse barbatis habentibus, constat.

Annual; leaves once or twice ternatisect, the segments filiform or nearly so; heads radiate; outer phyllaries subulate 2–4 mm. long, about one-half as long as the inner; achenes narrow, without wings; pappus of 2 stout retrorsely barbed teeth; disk corolla regular, the lobes about twice the length of the throat.

Plant 45–100 cm. high, glabrous throughout; stems single from each

[1]Grateful acknowledgment is due Dr. Hannah T. Croasdale of Dartmouth College who prepared the Latin description.

rosette (sometimes more following injury of primary growth); rosette leaves relatively few, ternatisect, 5–15 cm. long, the petioles 4–7 cm. long, short ciliate for 1–8 mm. at the base; lower and middle stem leaves pinnately 1 or 2 (3)-sect, the terminal division 1–7 cm. long (measured on leaves at second node above rosette); upper stem leaves once compound with 1–5 long, linear divisions; heads 2–30 to each main stem, at maturity on elongate peduncles 10–40 cm. long; outer involucre of 8–12 subulate, herbaceous phyllaries 2–4 mm. long, completely smooth; inner involucre 10–14 mm. across, 5–10 mm. high, phyllaries normally 8, fused below for about 1/3 to 2/5 their length; ray flowers eight, sterile; ligule 1.5–2.5 cm. long, 1–1.5 cm. wide, slightly 3-cleft, golden yellow with a well-defined reddish-brown spot at base; disk flowers numerous, their corollas rusty-brown, regular or nearly so, glabrate, 6 mm. long (with lobes unreflexed); lobes of disk flowers 5, equal, 2 mm. long, 1½ to 2 times as long as throat, with very distinct, reddish-brown veins along the margins; style branches broadened above into subulate hispid appendages about 0.3 mm. long; palea oblong, rounded at apex, broadly scarious margined, 6–7 mm. long, 1.5–2 mm. wide with a pair of distinct medial nerves; ovary (except those of the sterile ray flowers) glabrous; achene brownish at maturity, conspicuously warty to nearly smooth; pappus of 2 stout teeth, 0.5 mm. long, seemingly pubescent with retrorsely barbed, hispid outgrowths.

Chromosome number determined as $n=10$.

HOLOTYPE: TEXAS. Kenedy Co.; 22 miles south of Armstrong. Deep sandy soil along roadside. *B. L. Turner 4476.* (Deposited University of Texas Herbarium; isotypes to be distributed.) The species is named after Nueces County, a region where several very localized endemics occur.

Some additional specimens examined: TEXAS, Nueces Co.: 10 mi. east of Corpus Christi, *Turner 3966;* Corpus Bay, Flour Bluff, *B. C. Tharp 5625.* Aranas Co.: 1 mi. north of Rockport, *Turner 3968.* Kleberg Co.: *M. C. Johnston 5444O.* Kenedy Co.: *B. C. Tharp 49092.*

Counting the above, there are 27 different collections of the species in the University of Texas Herbarium.

Shinners (1950a), in his treatment of the Texas species of *Thelesperma,* placed the plants from southern-most Texas in *T. filifolium* (Hook.) Gray. He did this with considerable hesitation, stating that "Hooker's plate (which accompanied the type description of *T. filifolium*) shows the upper part of a plant only, and it is almost impossible to tell definitely whether the present species (*T. filifolium*) or *T. intermedium* var. *rubrodiscum* is shown," and further that "it must be admitted that this identification (of *T. filifolium*) is largely a guess."

Actually the plate accompanying the description of *T. filifolium* cannot represent the same species as the southern Texas material here described as *T. nuecense*, and which Shinners included in his concept of *T. filifolium*, since the colored plate, which was apparently drawn from living material, shows the rays to be completely yellow. *T. nuecense* has a definite reddish-brown blotch at the base of its rays. In addition, it is likely that Drummond did not collect in the area where this latter taxon grows (see below).

T. filifolium, as is apparent from the type description and accompanying plate, is correctly applied to the common *Thelesperma* of central Texas where it occurs in clay or gravelly roadside soils. It also occurs along roadsides of the Texas gulf coast on shell ridges or rarely on mixed sandy-shell fills. (Shinners apparently confused such collections from Matagorda County with the present *T. nuecense*.) Drummond collected the seeds that produced the material from which the original plate was drawn and it is extremely unlikely that he collected in the region where *T. nuecense* occurs (Geiser, 1948); although, as indicated by Shinners, it is obvious that Drummond did collect within the range of the common clay-land species of *Thelesperma* which Shinners treated as *T. intermedium*.

Shinners (1950b), in a later paper described variety *flavodiscum*[2] of *T. intermedium*. As indicated by the epithet, the disc flowers of this taxon are yellow, so that even though it might have been collected by Drummond, Hooker's plate (which shows a reddish-brown disc) and description clearly eliminate it as a contender for the name *T. filifolium*.

Alexander (1955) has published the most recent account of *Thelesperma*. Unfortunately he was unaware of Shinners' study and made no reference to either his views or published names. Alexander apparently included material of *T. nuecense* and *T. flavodiscum* in *T. filifolium*.

I have studied populations of *Thelesperma* in the field since 1953. The biological situation, as concerns the several taxa mentioned above, is fairly clear-cut, at least insofar as central and

[2]*Thelesperma flavodiscum* (Shinners) Turner, *comb. nov.* – *T. intermedium* var. *flavodiscum* Shinners, Field and Lab. 18: 98. 1950.

south Texas is concerned, the region from which the type collection of *T. filifolium* was obtained. Briefly, the status of the three taxa is as follows: *T. filifolium* is a rather small annual (1-2 feet tall) with completely yellow rays and reddish-brown disc, occurring on clay or calcareous soils of central Texas (but often on shell-fill or ridges along the gulf coast). Its chromosome number, as established from counts on several populations in central Texas, is $n = 9$ (Turner, unpubl.)[3], *T. flavodiscum* is a robust annual 2-4 feet tall) with completely yellow rays and yellow disc, occurring in sandy soils of pine and oak woodlands of central and east Texas. Its chromosome number has been determined as $n = 10$ (Turner, unpubl.); *T. nuecense* is an annual of medium height (2-3 feet tall), with yellow rays which, so far as is known, always bear a reddish-brown blotch at the base near the throat; in addition, the disc is reddish-brown and the heads are borne on exceptionally long peduncles. The species occurs in deep, normally rather bare, sandy soils in the coastal grasslands of southern Texas. It has a chromosome number of $n = 10$.

These three taxa are separated by morphological, geographical and/or edaphic discontinuities. Populations of *Thelesperma nuecense* and *T. filifolium* often occur near each other in the gulf coastal region (e.g. Aransas and Nueces Counties), but the species are readily distinguished and intergrades have never been found, either in the field or in the herbarium. — BOTANY DEPARTMENT, UNIVERSITY OF TEXAS, AUSTIN.

[3]Torres (1958) has reported a count of $n = 8$ for this species (cited as *T. intermedium*), but his counts were obtained from populations in New Mexico. Shinners (1950a) recognized material from this area as a taxon distinct from the typical element of the species, though Alexander (1955) makes no such distinction.

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